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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/047,216 | 01/14/2002 | Arihiro Takeda | 1117.66107 | 5771 |

7590 11/21/2003

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| EXAMINER |
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DUONG, THOI V

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| ART UNIT | PAPER NUMBER |
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2871

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,216

Applicant(s)

TAKEDA ET AL.

Examiner

Thoi V Duong

Art Unit

2871

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-12 and 33 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-12 and 33 ~~is/are~~ rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election without traverse of Group II, claims 8-12 and 33, without traverse in Paper No. 4 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 8, 12 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuyama et al. (Pub. No. US 2001/0006408 A1).

As shown in Figs. 2A-3B and 5A, Matsuyama et al. discloses a liquid crystal display device comprising:

a first substrate 1 having thereon a pixel electrode 3 and an active element 100;
a second substrate 2 having thereon an opposed electrode 4; and

Art Unit: 2871

a liquid crystal layer interposed between said first and second substrates with said electrodes facing each other,

wherein an orientation control element 12 giving an orientation regulating force to liquid crystal molecules 8 near an edge of said pixel electrode on said first substrate is locally provided near said edge on said first substrate so that said liquid crystal molecules including those near said edge are oriented in substantially the same direction, when difference in orientation direction among said liquid crystal molecules adjacent to each other near said edge is caused by an orientation regulating force given by said edge of said pixel electrode to said liquid crystal molecules of said liquid crystal layer when voltage is being applied between said pixel and opposed electrodes (page 4, paragraph 62),

wherein a dielectric anisotropy of said liquid crystal molecules of said liquid crystal layer is negative (page 4, paragraph 73).

4. Claims 8-10, 12 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeda et al. (Pub. No. US 2003/0202146A1).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Art Unit: 2871

As shown in Figs. 4A and 7, Takeda et al. discloses a liquid crystal display device comprising:

a first substrate having thereon a pixel electrode 112 and an active element TFT;

a second substrate having thereon an opposed electrode 111; and

a liquid crystal layer interposed between said first and second substrates with said electrodes facing each other (page 1, paragraph 5),

wherein an orientation control element S2 giving an orientation regulating force to liquid crystal molecules L near an edge of said pixel electrode on said first substrate is locally provided near said edge on said first substrate so that said liquid crystal molecules including those near said edge are oriented in substantially the same direction, when difference in orientation direction among said liquid crystal molecules adjacent to each other near said edge is caused by an orientation regulating force given by said edge of said pixel electrode to said liquid crystal molecules of said liquid crystal layer when voltage is being applied between said pixel and opposed electrodes (page 3, paragraph 32).

wherein said orientation control element is constituted by a plurality of fine slits formed in said pixel electrode in an oblique direction relative to an extending direction of said edge, wherein at least a part of said fine slits are different in shape and/or spaced interval of arrangement from each other (see the slits at top left corner of the pixel electrode 128 in Fig. 7); and

wherein a dielectric anisotropy of said liquid crystal molecules of said liquid crystal layer is negative (page 4, paragraph 49).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama et al. (Pub. No. US 2001/0006408 A1) as applied to claims 8, 12 and 33 above in view of Numato et al. (Pub. No. US 2001/0048499 A1).

Matsuyama et al. discloses a liquid crystal display device that is basically the same as that recited in claim 11 except for a hollow formed as an orientation control element in a part other than said pixel electrode. As shown in Figs. 1 and 2, Numato et al. discloses a liquid crystal display device comprising pixel electrodes 12 and a hollow 13a formed between the pixel electrodes for giving the distortions to the alignment of the liquid crystal molecule 14 (page 4, paragraph 78) so as to obtain a high display quality which is high in aperture ratio and is free from the cross talk (page 2, paragraph 9). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal display device of Matsuyama et al. with the teaching of Numato et al. by forming a hollow as an orientation control element in a part other than the pixel electrode to obtain a high display quality.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-

Art Unit: 2871


3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong



11/16/2003



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